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AUTHOR Geller, Henry
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ABSTRACT

While state and local regulation is important to the development of communications, particularly broadband, Federal policies have been and will continue to be the dominant force in shaping the regulatory environment for communications. This paper identifies the Federal regulatory policies that have been most important to rural communications, and assesses broadly how well they have served to promote balanced national growth and development. In addition, areas where policy is and is not sufficiently flexible to meet distinctive rural needs are identified. Federal regulatory policies are organized within broad categories: (1) broadcasting (radio and television), (2) cable (general policies), (3) cable and broadcast translators, (4) telephone-telegraph services, and (5) domestic satellites. (NQ)

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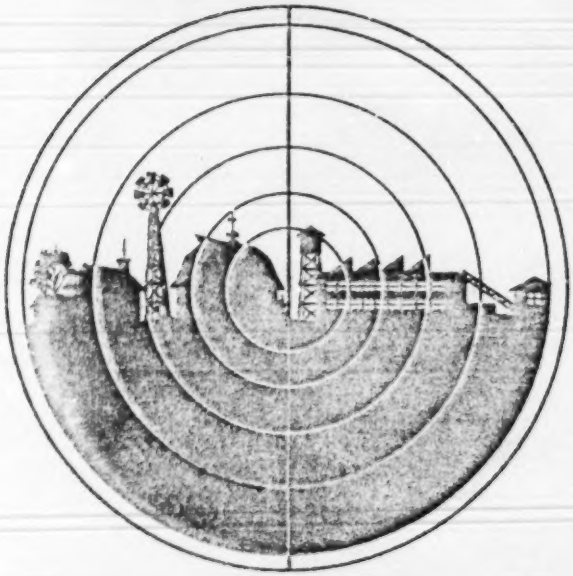

November 15, 16, and 17, 1976

Washington, D. C.

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RC009682

Communications and Rural America

Purpose

In April 1976, the Office of Technology Assessment (OTA) of the U.S. Congress issued a staff report entitled *The Feasibility and Value of Broadband Communications in Rural Areas*. The purpose of the conference is to extend this effort by:

- Considering a broader range of communications technologies which might be used to meet rural needs.
- Further examining the question of whether system demonstrations aimed at achieving economic viability are needed and if so, identifying the kinds of demonstrations which might be undertaken.
- Further examining whether rural interests have been adequately considered in existing Federal communications policy.

The outcome of this effort will be a report incorporating the information and points of view presented at the conference.

Congressional Interest

The conference is being held in response to a request for additional information on rural communications from Senator Herman Talmadge, Chairman of the Senate Agriculture Committee, as approved by the 12 member Technology Assessment Board of the U.S. Congress. Senator Pastore of the Senate Subcommittee on Communications subsequently joined Senator Talmadge in support of the conference. It is intended that the conference will be of value to the U.S. Congress in its deliberations on communications policy.

Conference Dates and Organization

The conference will convene for 3 days, November 15–17, 1976, with about 60 invited participants. For the first 2 days, participants will be equally divided among three panels which will meet in parallel. Each panel will concentrate upon a specific topic addressed in the OTA report as follows:

- **Panel 1.** Rural Development and Communications.
- **Panel 2.** Technology, Economics, and Services.
- **Panel 3.** Federal Policy.

On the third day, participants from all three panels will meet together to exchange and synthesize findings and explicitly address the question of rural system demonstrations.

Cosponsoring Institutions

The National Rural Center is cosponsoring Panel 1 (Rural Development and Communications). The Aspen Institute is cosponsoring Panel 3 (Federal Policy).

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FEDERAL REGULATORY POLICIES, THEIR IMPLICATIONS AND EFFECTS ON RURAL COMMUNICATIONS

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DISCUSSION PAPER FOR PANEL 3

OTA CONFERENCE ON COMMUNICATIONS AND RURAL AMERICA

November 1976

Prepared by

HENRY GELLER
ASPEN INSTITUTE FOR HUMANISTIC STUDIES

I. Introduction

This paper deals with matters of federal regulatory policy that bear on the development of rural communications. Given the limited time available for preparation of this report, it does not explore in depth all of the many areas of policy relevant to rural communications. Rather it attempts merely to identify the regulatory policies that have been most important to rural communications and to assess broadly how well they have served to promote balanced national growth and development, including of course the development of rural America. In the course of doing so, it also attempts to identify areas where policy is and is not sufficiently flexible to meet distinctive rural needs.

The comments are directed entirely to federal regulatory policies and their effects, leaving to a separate paper consideration of additional federal roles. The neglect of State regulatory policies reflects in part the time constraints on preparing this paper. A fuller assessment of regulatory policies might well examine, for example, the effects of state rate regulation on telephone service and the effects of local and state regulation on cable (there is, of course, no pertinent local or state regulation of broadcasting services). However, while state and local regulation is not without importance to the development of communications -- particularly broadband -- there can be no doubt that federal policies have been and will continue to be the dominant force in shaping the regulatory environment for communications.

The discussion of federal regulatory policies is organized within broad categories: broadcasting, cable, telephone-telegraph, domestic satellites. Obviously, there is considerable overlap between these general categories, but the classification is useful for discussion purposes.

II. Broadcasting

The basic statutory mandate of Section 307(b) of the Act -- requiring the Commission insure "fair, efficient and equitable distribution of radio service" among the several states and communities -- was clearly intended to promote the interest of balanced national development, and FCC policies under this mandate have generally been conscious of the need for wide geographic dispersion of broadcast services and outlets.

Radio

Radio allocations policies have been broadly consistent with the interest of promoting rural service. In line with the above mandate in 307(b), the FCC's policies have consistently given first priority to license applicants proposing to provide service to unserved areas ("white areas"), and second priority to proposals to improve "inadequate" existing service.[1/] Unlike AM, FM and TV channels are assigned to communities by

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1/ Because of the early proliferation of AM stations, the AM band has for over a decade been seriously overcrowded. Since 1964 the Commission has accordingly followed a policy of limiting new or expanded AM service to those areas where it would remedy a serious deficiency in aural facilities. For current allocation standards (revised in 1975), see 47 C.F.R. § 73.37; AM Station Assignment Standards, 55 FCC 2d 213 (1975).

a fixed table of assignments; however, changes in the FM table are frequently made on request. Assuming technical compatibility with other FM assignments, the Commission will reallocate an FM channel upon request to sparsely populated areas. Still there remain all too many sparsely settled areas where radio service is inadequate. A number of possibilities for promoting extended service are under consideration.

One possibility involves the FCC's clear channel policies. The clear channel allocations policy is perhaps the most prominent illustration of a communications regulatory policy specifically designed to promote rural development. For years this was accomplished through the secondary (skywave) service provided by single stations operating on 25 clear channels ("I-A" channels). In 1961, the Commission concluded a 16-year proceeding "to explore the changes which should be made in existing patterns of clear channel usage, in the light of the uncontroverted fact that approximately half of the land area of the United States and about 25 million people were without nighttime primary service from standard broadcast stations." 1a/ The FCC considered two alternatives to remedy this deficiency: (1) permitting existing I-A stations to operate with greatly increased power, or (2) assigning new Class II stations on the I-A channels, so situated and so protected by the existing I-A stations as to provide new groundwave and skywave services to deprived areas and populations from comparatively nearby locations. The Commission opted for the second alternative. It assigned a single unlimited time Class II station on thirteen of the I-A channels, 2/ such new stations

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1a/ FCC 75-1331, par. 2; 31 FCC 565 (1961).

2/ Two channels were used to accommodate station changes made necessary by treaty obligations.

to be located in specific western states with a dearth of nighttime primary service. The Commission left for future evaluation the issue of high power on the other twelve channels better suited for that approach. Clear Channel Broadcasting, 31 FCC 565 (1961), aff'd, The Goodwill Stations, Inc. v. FCC, 325 F.2d 637 (D.C. Cir. 1963).

In the ensuing fourteen years, new Class II-A stations were authorized on ten of the eleven available channels, with a pending hearing to determine the applicant on the last channel. These assignments have provided a first nighttime primary service to about 300,000 persons, but when it is viewed against the period of nearly ten years it has taken to accomplish this end, and the 25 million persons which, it was estimated in 1961, had no nighttime primary service, it is obvious that the Class II assignments have done hardly more than nibble at the fringes of the problem of inadequate nighttime standard broadcast service. Recognizing this fact, the Commission in October 1975 issued a new notice, seeking "once again, to arrive at a complete, definitive and final clear channel decision." FCC 75-1331, at par. 5. The Commission is exploring whether to authorize super power[3/] or more Class II stations or a multiplicity of

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3/ If the quality of secondary service is to be enhanced to the degree that it becomes an adequate substitute for primary service, station power must be increased very substantially -- on the order of ten to fifteen times.

local or regional stations on these I-A channels.[4/] It will makes its decision in light of a new study taking into account not only AM but also FM service throughout the nation.[5/]

To date policy investigation of extending radio broadcast service to unserved or underserved areas has concentrated on commercial radio, with virtually no attention being given to the possible role of public radio stations. Given that the main constraints on expanded rural service is the inadequate commercial base for service to sparsely settled areas, it seems sensible to consider public broadcast stations as an important alternative to commercial service in such areas. Unfortunately for rural America, there is no indication that public radio has been so viewed. While there is no regulatory policy explicitly promoting rural public broadcast stations, one can discern no substantial regulatory

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4/ It is also being argued -- particularly by minority groups -- that clear channel allocations are wasteful in preempting spectrum that could be used to develop more local or regional outlets. While the thrust of this argument is directed more at securing additional stations for urban areas, it is possible that it could yield some additional stations in rural areas also. However, the chief drawback to more local rural stations is probably economic viability, not availability of frequencies. Thus, any shift away from clear channels is, other things being equal, likely to impact adversely on rural radio service. These are of course issues to be explored in the clear channel inquiry.

5/ In this connection, there is now the possibility of increased use of FM translator stations. Technological advances in the 1960's made such stations possible, and the FCC in 1970 authorized the FM translator. However, until July of 1976, such stations could not be operated on an unattended basis because of the provisions of Section 318 of the Communications Act of 1934, as amended, requiring a licensed operator to be on duty. In July 1976, Congress enacted Public Law 94-335, removing this requirement "in order to make the FM translator stations more economically feasible" (H.Rep. 94-1261, 94th Cong., 2d Sess., 2, 1976). On August 10, 1976, the National Translator Association (NTA) filed a petition to amend the FCC rules (47 C.F.R., Sec. 74) to implement the purposes of the 1976 amendment. The FCC has not yet acted, but can of course be expected shortly to issue the requested notice.

barriers either. The main obstacle is obtaining financial support. The Corporation for Public Broadcasting (CPB) and National Public Radio, the primary federal institutions supporting public radio, have been concerned with obtaining greater penetration in urban areas rather than expanding to rural areas. While this may be sound from the standpoint of building a strong base for a national public radio network, it has effectively kept public radio from playing an important role in rural America. And neither Congress nor the Executive has acted here to prod CPB.

Television

In television the Commission's allocations policies have again been ostensibly designed, in accordance with the mandate of Section 307(b), to aid in balanced growth and development by securing universal service. The success of those policies in advancing that goal is, however, debatable. Doubtless most Americans enjoy a significant amount of television service. Approximately 97.5% of households have television sets and approximately 90% of them receive the full complement of commercial network services. Yet there is still legitimate dissatisfaction with the extent and distribution of services. The nation has not received the service it could reasonably expect; in particular there is, as in radio, greater disparity in the services available to urban and rural areas than seems consistent with a full commitment to balanced national growth and development. It has, for example, been recently estimated that 1.2 million households do not have any acceptable television service and nearly 6 million have two or less channels available.

The cornerstone of present policy is the Commission's 1952 allocations plan which sought to couple two objectives: universal availability of

service and widespread diffusion of local outlets, providing locally oriented service. Sixth Report on Television Allocations, 41 FCC 148 (1952). Providing a first service to all parts of the country became the first allocations priority while providing a first local station to each community became the second. In choosing a scheme that favored widespread diffusion of relatively low-powered local outlets, the Commission explicitly rejected an alternative allocations scheme which would have favored high-powered regional allocations with service to the "hinterlands" being distributed by auxiliary means such as translators. The latter plan would have permitted a greater number of services -- particularly VHF -- because of more efficient technical utilization of frequencies, but it would have sacrificed the benefit -- to which the Commission gave high priority -- of local outlets with locally oriented service. Also the Commission believed that a full utilization of both VHF and UHF frequencies would yield ample services.

And so it would have if things had worked out as the Commission planned. Unfortunately UHF failed to develop fully.[6/] As a consequence those cities which had to depend on UHF, at least for multiple service, suffered a marked disadvantage vis-a-vis large cities (such as New York, Chicago, Los Angeles). The now familiar disparity of services emerged -- which worked particular hardships on small towns and remote rural areas.

6/ The reasons for this failure have been fully documented. See Geller, A Modest Proposal for Modest Reform of the Federal Communications Commission, 63 Geo. L. J. 705, 707-713 (1975); Note, The Darkened Channels: UHF Television and the FCC, 75 Harv. L. Rev. 1578 (1962); Noll, Peck & McGowan, Economic Aspects of Television Regulation, 101-104 (1973).

The Commission's 1952 plan not only failed to reckon fully with the technical and economic problem of UHF; it failed adequately to consider the economic incentives which led broadcast entrepreneurs to locate in the larger cities. Following these incentives there has been a continuous effort by licensees to remove their frequencies -- or at least their studios and transmission facilities -- to larger cities, thereby undercutting a cornerstone of the Commission's allocations plan.

Despite the questionable achievements of the 1952 allocations scheme, the Commission has for twenty years tried to secure its promise by a number of measures. 7/ They include such efforts as: (1) early consideration of a movement of all television services to the UHF band, which would have eliminated the technical and economic disparity of VHF-UHF and promoted greater service via the abundant capacity of the UHF band (at the time 70 channels in contrast to twelve VHF channels); (2) "deintermixed" allocation of UHF and VHF frequencies in the same markets, designed to remove the disparity between VHF and UHF frequencies which hindered UHF growth; (3) VHF "drop-ins" -- allocation of additional VHF frequencies (at less than prescribed mileage separations in selected VHF-deficient markets in order to facilitate a full complement of commercial network services to numerous communities lacking them); (4) promotion of a competitive UHF system strong enough to compete with VHF.

7/ For a fuller discussion, see sources cited in fn. 6. See also E. Krasnow and L. Longley, The Politics of Broadcast Regulation, 96-97 (1973). One FCC policy, discussed more fully within, involves cable television. Thus, beginning in the early 60's, the FCC has sought to protect local TV service in sparsely populated areas by its requirement that the cable system must carry the local station and must not duplicate the station's network programming (thereby insuring that the local station's commercial adjacencies will be seen by the cable TV audience). Other FCC cable policies raise substantial questions. See n. 17, infra.

Each of the first three measures largely failed. The all-UHF proposal -- clearly the most promising reform -- was quickly scrapped for political reasons. The substitute plan, deintermixture, also did not develop. A few markets were deintermixed but not enough to make a difference in the total system design. A few drop-ins and a couple of quasi-drop-ins ("move-ins" -- reallocation of channels from a nearby city) were made but nothing significant has come of this action. The drop-in proposal has recently been revived but it is a very limited measure which will have little, if any, impact on the system as a whole. The fourth measure survives; spurred in 1962 by the all-channel receiver legislation, the Commission has ever since attempted to promote UHF -- in the main by a policy of regulation protecting existing and potential UHF stations against competitive threats (such as from cable). The UHF promotion policy has had only modest success. UHF has gradually been expanded and strengthened, but it would be claiming too much that UHF development has redeemed the 1952 promise of abundant television service to all parts of the country.

Although none of the other measures designed to redeem the service benefits of the 1952 allocations scheme were specifically addressed to the problem of rural service, it seems reasonably clear that at least the first would have helped to promote a more balanced nationwide distribution of television services that would have increased the services to rural areas.[8/]

8/ No doubt, however, even if that measure had been adopted, there would still have remained remote rural pockets which received less than a full complement of television services without the aid of auxiliary devices such as translators and cable.

This raises a fundamental issue about allocations policy. The FCC's emphasis on local allocations in its 1952 television plan necessarily placed greater limitations on the number of services which could be provided than would have been imposed if the Commission had not laid such preeminent emphasis on local service.[9/] As has been recently demonstrated, the Commission could have secured at least six VHF services to all parts of the country, with obvious benefit to rural America.[10/] The Commission's decision to have local outlets for self expression and locally oriented service is not irrational -- it simply represents a different policy judgment from one that would have ensured maximum service.[11/]

Whatever the wisdom of the Commission's allocations scheme, it is probably beyond recall in any event, since it is not practicable to undertake more than minor, marginal changes (e.g., VHF drop-ins). The policy

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9/ Compare the policy in Great Britain where national programming was the established policy goal. R. Coase British Broadcasting, 46-50 (1950).

10/ See Noll, Peck & McGowan, op. cited, at 116-19; cf. the Kittross proposal to divide the U.S. into specific TV regions. Broadcasting, Sept. 22, 1975, at 63.

11/ There remains, however, a question whether the benefits of localism, such as they have been perceived to be, have in fact been realized. Television has very largely relied upon network and syndicated film programs, particularly in prime time. Local programs consist almost entirely of local news. And the Commission has done very little to enforce its local/informational allocation policies -- in apparent recognition that viewers prefer national over local programming. For a criticism of the FCC's enforcement attitude see, e.g., Cox and Johnson, Broadcasting in America and the FCC's License Renewal Process: An Oklahoma Case Study, 14 FCC 2d 1 (1968)

of localism which underlies it, however, is subject to reconsideration insofar as it is necessarily called into question by the advent of new technology offering new ways for distributing television (and radio).

One of these developments is direct satellite broadcasting. The immediate task on the FCC's policy agenda in this area is an international allocation of spectrum which would permit direct broadcast satellite services as well as fixed point-to-point service.[12/] The international problems raised by direct satellite broadcasting service need not detain us, concerned as they are primarily with questions of cultural "exploitation" of one country by another.[13/] It is the domestic policy implications that most need attention. Broadcasters, quick to perceive the probable impact of direct satellite broadcasting on local stations, have already begun to mobilize against this threat. If and when satellite broadcasting evolves beyond the stage of conceptualization to actual operation, it will spark a political controversy rivaling the long and bitter controversy over cable television, now entering its second decade. If the Commission adheres to its policy of localism here as rigidly as it has in the case of cable television, direct satellite broadcasting will have a very dark future -- perhaps being confined to limited educational services similar to those pioneered by ATS-6.

12/ Report and Order (Docket No. 20468), FCC 76-677. Technically direct satellite broadcasting is possible at the present time. Whether it is also economically feasible is unsettled, but it should be noted that Japan is considering initiation of direct satellite broadcasting in the next few years.

13/ See, e.g., Control of the Direct Broadcast Satellite: Values in Conflict (Aspen Institute Occasional Paper, 1974).

The future of direct satellite broadcasting remains speculative. So too does the other development that has challenged (or more accurately, has been perceived to challenge) the policy of localism -- cable television.

III. Cable

General Policies

Though cable[14/] has been established as a national communications medium only since the mid-1960's, as a minor supplement to broadcast service it has existed since the late 1940's. However, recognition of the independent status of cable, as an important medium in its own right (as opposed to a mere supplement to broadcast service) has been late in coming. Even today that recognition is grudging and precarious as cable labors under a heavy burden of regulations, federal, state and local. Of largest importance are the FCC's regulations which establish the framework within which cable and local authorities can operate. Since the early 1960's FCC cable policies have been designed to protect local broadcast stations (and thereby local broadcast service) against the threat of serious economic injury from cable competition.[15/]

14/ Hereafter the simple term "cable" will be used instead of cable television, in recognition of the fact that this broadband medium offers more than television services. However, at the present time traditional, one-way television programming dominates cable, and is the central focus of regulatory policy.

15/ The current rules are contained in 47 C.F.R. Part 76. With some recent modifications the present structure is the creation of a Cable Television Report and Order, 36 FCC 2d 141 (1972). For a recent critique of the present rules, see House Staff Report, Cable Television: Promise Versus Regulatory Performance, Subcomm. on Communications of the House Comm. on Interstate and Foreign Commerce, 94th Cong., 2d Sess. (1976). The Report is the latest in a long line of critical evaluations. Earlier studies by OTP, by the Sloan Commission and numerous scholars, are listed in the selected bibliography, Appendix B to the Report.

In broad summary this system of protection: (1) requires cable systems to carry the signals of broadcast stations in the same market; (2) prohibits them from simultaneously duplicating the network programming of local stations; there are additional non-simultaneous duplication restrictions for syndicated programs in the top 100 markets; (3) restricts the number of signals which cable can "import" from non-local stations. In the smaller markets with which we are concerned, this restriction generally limits cable to carrying the three networks and one independent signal. There are special restrictions on pay television operations ostensibly designed to prevent the diversion of programming from free television to pay television.

In addition to these restrictions on cable designed to protect broadcast service, there are rules designed to promote general communications policy. These include restrictions on ownership of cable systems by broadcast stations within their local service areas, by networks in any area, and by telephone companies within communities which they serve. Other rules similarly designed to promote general regulatory policies include equal employment opportunity rules, rules enforcing such program policies as fairness, equal time, and barring obscene and indecent programming, and rules -- aimed at local franchising authorities -- providing for local scrutiny of such matters as franchise selection character, or duration and construction schedules.

Finally there are special exactions designed to secure certain benefits from cable -- these include, for systems with over 3,500 subscribers, requirements of minimum channel capacity (at least twenty for new systems) and access channels (for public, educational, local government and private-leased use).[16/]

The individual or cumulative impact of these FCC regulatory policies on the development of cable in rural areas is difficult to assess. So far as the general restrictions on service are concerned, the direct effects are probably rather insubstantial; for the restrictions on cable service do not apply to cable in the sparsely populated rural areas that lie outside existing television markets. The effect of imposing special access services and channel capacity seems similarly negligible. These requirements do not currently impose a very substantial burden on systems, and they do not in any event apply to the smaller systems one would encounter in many rural areas.

However, the fact that cable regulatory policies have not directly restrained rural development of cable is not decisive of their impact. To view only the particular effect on rural service is to overlook the probable indirect effect arising from the constraints on cable as a nationwide system. There is reason to believe that the full development of rural cable is closely tied to the development of cable nationwide.

At least two considerations seem to support this conclusion. First, rural cable is heavily dependent on satellite or terrestrial

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16/ Under amended rules adopted in 1976, a single composite channel will satisfy this requirement unless there is sufficient activated channel capacity to fulfill the four channel requirement. Cable TV Capacity and Access Requirements, 59 FCC 2d 294 (1976). The OTA suggestion that integrated (entertainment and non-entertainment) service to rural areas would be aided by elimination of free access channels needs to be tested against this latest rule revision and the considerations in the discussion above. The question is worth pursuing with the Commission.

microwave facilities, but the basic investment for such facilities is dependent on a base of subscriber support that requires substantial penetration in thickly settled, urban places. Extension of service into small towns and rural areas -- even with the aid of translators -- seems unlikely except as a byproduct of the extensive development in the nearest urban places. Second, public support for rural cable development is not likely to be very strong unless it is perceived that the rural areas are substantially lacking services that nearby (not just New York or Los Angeles) urban areas have. The fact is that most urban areas do not have a multitude of communications services -- entertainment or other -- that are unavailable to most small towns and rural areas. It is doubtful that the support for public funding of cable systems can be established on the strength of a demand for more radio and television service.

If the foregoing speculations are correct, then we should recognize explicitly that the growth of broadband cable in rural areas is closely tied to the national growth of cable, as an industry. From this perspective, there are several serious obstacles that have been created by regulatory policy on the federal and state levels.

On the federal level, the list should include the following:

1. Restrictions on carriage of distant signals in the major markets. All such restrictions ought to be removed with the adoption of

copyright legislation. Such restrictions are unwarranted as a general protection of the public interest.[17/]

2. Non-duplication protection extending beyond simultaneous duplications. Current FCC rules providing protection of syndicated programming against non-simultaneous duplication are, in practical effect, a form of non-statutory copyright protection. This function should be taken over by copyright legislation (see particularly the adjustment mechanism provided for in that legislation).

3. Restrictions on pay television operations. These are not so onerous as they once were[18/] but they still are far more restrictive than is necessary to protect legitimate concerns about pay-TV's possible siphoning of popular entertainment programming now on commercial television service.[19/]

17/ See, e.g., House Report fn. 14 supra, at pp. 45-55. As noted, to protect the local station against being inundated by distant signals brought in by the cable system, the Commission has restricted the number of such signals in markets 100-on to 3-1 -- that is, three network signals, one independent. In most cases, this does not hinder cable development since missing network signals alone suffice to "sell" the cable service. However, in some below 100 markets, all three network services are already present over-the-air It would be most difficult to provide cable in such markets on the basis of one distant signal importation. The FCC should be alert to waive its rule in such circumstances and permit at least two independent signals; there is, however, no present indication of such a waiver policy.

18/ See Subscription TV Program Rules, 52 FCC 2d (1975)

19/ Here again it should be noted that pay service in rural areas will be developed only if available on a nationwide (satellite) basis. This is true also of over-the-air pay service. The FCC now restricts such service to areas with five signals. Even assuming the Commission could be induced to waive this policy and to permit rural subscribers to pay directly for desired TV service, this is economically feasible only if home pay apparatus is widely and cheaply available.

On the state and local level the largest problem generally seems to be the costly and time consuming processes of: (1) franchising (a problem that is compounded by the FCC's standards for local franchising authorities), and (2) rate regulation. The solutions to these problems at the local level are far from simple. While the federal government could (and has been asked to) preempt local regulation, this would put a brobdingnagian burden on the FCC -- unless it were to declare the field to be totally free of franchising and rate controls. Given the natural monopoly characteristic of cable television on a local level, this latter course of action seems dubious at least as a long term policy. In any case the first priority ought to be for simplification and relaxation of federal regulatory constraints; if local authorities were not induced by example to follow suit, then some degree of federal standardization and control might be considered.

IV. Cable and Broadcast Translators

As a medium of communications, cable suffers from the liability that it is uneconomic to install cable links to every home in sparsely settled rural areas. Broadcasting, however, suffers similar economic as well as technical constraints in providing multiple service to remote rural areas --as is evident from the fact noted earlier that nearly six million people do not have a full complement of commercial network

service and over one million have no television at all. Until cable developed, the means for reaching remote areas beyond television station service areas (or pockets of poor reception within the nominal reception range of stations) was translators. Regulatory policy towards translators was similar to the early attitude toward cable: Translators were acceptable as an auxiliary device for filling in gaps within the service areas of regular television stations or for extending service to remote areas beyond the service areas of any station. And translators have indeed remained a very limited device for "filling in" service gaps.

No doubt the main obstacle to translator development was the absence of adequate economic incentives by communities or by private entrepreneurs. "Local" broadcast stations may have an incentive to establish translators within or just beyond their service areas to fill in or extend their service, but they have no incentive to bring in competing signals from distant markets; distant stations generally have no incentive to extend their services far beyond their market because to do so has negligible effect on their advertising revenues. Communities, which are the largest class of translator licensees, have generally not had a sufficient tax base or other means of financing the facilities (microwave facilities for distant signals plus the local transmitters for each signal) for any but the minimum commercial network service.

Given the service shortcomings of conventional broadcasting in rural areas on the one hand and the inherent limits of cable on the other, it has been suggested that perhaps a merger of the two modes

could offset some of the limitations on each. Recent studies, sponsored by OTP and conducted by the Denver Research Institute, [20] have recommended the creation for this purpose of a regional Rural Television Authority (RTA) that would operate both technologies in an integrated system. RTA would employ cable technology for television service to rural villages (including "broadband" capacity bringing additional services as cost factors permit) and translators for service to outlying areas. Cost savings would be possible through shared signal reception, processing, and office facilities and through common use of maintenance crews. [21] The DRI study indicated the provision of three channels of service to everyone but about 150,000 households in extremely remote areas would be

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20/ Broadband Communications in Rural Areas, Denver Research Institute, (1973).

21/ The practicality of the joint approach is support by a recent trade article (CATJ, April 1976, at 33-34) stating:

> "CATJ found one three-channel (UHF) translator installation that is owned by a group not (originally) in the cable business that operates in a region where the principal translator community has a cable system. The cable system has some 1,500 subscribers, and the translator has around 500 in-town paying viewers as well. Outside of town, where the cable company does not serve, the translator company has another 500 "subscribers." Using this three-translator (i.e. all networks) base, this particular translator operation has also gone into four nearby (25-40 miles) small towns of from 150 to 500 homes each. Using their own translator signals, they have applied for regular cable franchises, and built the communities following accepted CATV practices. This may be part of the reason their translator business is viable and actually making money, when so many are not. The incentive to keep the translator signals looking good is very high, not only to keep the approximately 1,000 translator homes in the translator-licensed town happy, but because around the translator town four additional towns with an additional 1,000 or so cable customers are dependent upon the translators for service."

feasible under the RTA or hybrid approach. However, the Report went on to note [22]:

> "...the development of such systems is impeded by present FCC regulatory prohibitions against (1) the common ownership, operation, or control of translators and cable systems, and (2) the use of common carrier or frequency modulated private microwave systems for the relay of signals for rebroadcast by translators. Under existing rules, translators may use only AM microwave or a series of direct UHF or VHF translator relays -- techniques that adversely affect signal quality and effectively limit the distance a signal may be relayed... Translators are barred by the FCC from carrying virtually any locally generated advertising."

These restrictions were brought to the Commission's attention by OTP in February 1975. There has been action in some of the proposed areas. Thus, in July 1975, the FCC issued a notice of proposed rule making to allow translators to use FM microwave to obtain a video and audio feed from any suitable source, such as a broadcast station microwave system, a microwave common carrier, a cable system, etc. Comments on these proposals to improve the quality of the input signal were received in August 1975; the proposal aroused no opposition. However, no action has yet been taken.

In July of this year, Congress amended Section 318 of the Communications Act to permit originations by translators. The House Report states (see H.Rep. No. 94-1261, 94th Cong., 2d Sess., at 3):

22/ Television Distribution in Rural Areas, OTP, Feb. 1975, p. 11.

> "Allowing limited origination by translators would give their audience access to local news and information of vital community interest, as well as enable translators to meet the difficult problems of financial support for their operation and service. The Committee is relying upon statements of the Commission that it will not allow the substitution of commercial advertising. While the Committee is of the view that specific limitations on the amount and nature of local origination to be allowed, as well as any attending technical or other requirements, should be determined by the Commission in a rulemaking proceeding to implement the legislation, the Committee expects that such origination will be limited to local news and vital information."

In August 1976, the National Translator Association filed a petition for rulemaking seeking: (1) permission for translators to originate only emergency warnings of imminent danger (e.g., hurricanes, flood, tornado); and (2) permission for VHF TV translators to have originations limited to soliciting funds for the operation of the translator (or acknowledging financial support).[23/] Both these requests are of a very modest nature, well within the legislative history, and are sure to be acted upon favorably. The larger and more difficult issue -- significant programming origination by the translator -- has been postponed to the future, even though the legislative history supports action in this important area also.

With regard to the cross-ownership restrictions, the significance of current rules may have been exaggerated by the DRI report. The prohibition

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23/ In 1968, the FCC construed Section 318 to allow UHF translators to originate twenty seconds of commercial advertising per hour, limited to slide, still photographs, and recorded voice announcements; in 1975 this was increased to thirty seconds per hour. See 47 C.F.R. § 74.731(f).

on cable-translator cross-ownership applies only to service in the same community.[24/] Moreover, even assuming that there is a conflict because both cable and translator are proposed for the same community, the Commission has waived this restriction in the past,[25/] and would undoubtedly do so for an RTA-type proposal. On the other hand there seems to be no persuasive case for not eliminating the ownership restriction to permit cable-translator ownership where it is appropriate to promote an RTA-type development in rural areas. As OTP pointed out in its submission to the FCC (Television Distribution in Rural Areas, Feb. 1975, p. 13), any variance from the rules is dependent upon case-by-case waiver applications, which are costly and time-consuming and never completely certain of success. Greater latitude could stimulate innovative planning and development of hybrid communications systems geared to the particular needs and interest of specific localities.

The above discussion has considered the argument that the FCC's cross-ownership policies impose unnecessary barriers to the establishment of integrated cable-broadcast service. There is the further contention that the cable-telephone cross-ownership ban[26/] also impedes the development

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24/ 47 C.F.R. § 76.605(a)(3). Indeed, cable systems are openly urged to install translators in their regions, because such translators are cheaper means of relaying the signal to the cable community than a microwave relay station. CATJ, April 1976, p. 31. There are today 25 cable systems that depend partially on translator relayed signals, with the translators owned by the cable systems. Ibid.

25/ See, e.g., Ft. Mason TV Improvement Co , 43 FCC 2d 302 (1973) (waiver granted for joint operation in city of only 1,900); Uvalde Television Cable Co., 42 FCC 2d 481 (1973) (waiver granted on condition that translator operate omnidirectionally).

26/ See 47 C.F.R. §§ 63.54; 64.601; General Tel. Co. of Southwest v. United States, 449 F.2d 846 (5th Cir. 1971).

of an integrated telecommunications approach. The Commission, however, has recognized that while the general thrust of its rules is to prevent possible abuses stemming from the competitive conflict-of-interest between the co-located telephone common carrier and cable operations, an absolute ban might prevent many communities from enjoying the benefits of cable. Its rules specifically allow for waiver of the cross-ownership provision, and it has waived the provisions in several instances.[27/]

Here again it is arguable that the cause of rural telecommunications might be better promoted by an addition to the present rules specifically recognizing and exempting rural telecommunications projects of a certain size and nature. However, any such exception should be carefully limited because there are serious possibilities of abuse.

V. Telephone-Telegraph Services

Telecommunications policy has ostensibly addressed the question of balanced geographic development in its establishment of present telephone rate structures. The telephone rate structure has been traditionally supposed to promote universal telephone service through a system of internal

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27/ See, e.g., Telephone Common Carrier et al, 50 FCC 2d 156, 161-62 (1974). See 47 C.F.R. §§ 63.55 and 64.602:

> In those communities where CATV service demonstrably could not exist except through a CATV system related to or affiliated with local telephone common carrier or upon other showing of good cause, the provisions of 63.54 may be waived, on the Commission's own motion or on petition for waiver, if the Commission finds that public interest, convenience and necessity would be served thereby.

subsidies in which, allegedly: (a) interstate users subsidize intra-state users; (b) business users subsidize non-business users; (c) urban users subsidize rural users; (d) existing users subsidize new users (new users generally paying less than full installation costs of new telephone service); (e) special terminal equipment buyers subsidize ordinary users, and so on. The precise direction and extent of the subsidies are not entirely free from doubt.[28/] Subsidy (a) is explicitly provided by current separations procedures but the degree to which it has promoted greater telephone service is unknown. Certainly there is no known evidence for the claim by AT&T that this has been a means for promoting universal residential service. The same is true of the other claimed subsidies. Indeed subsidy (b) and (c) have been recently challenged as erroneous by the New York State Public Service Commission.[29/]

We do not believe that further discussion of these claimed subsidies -- and in particular subsidy (c) which would be most pertinent here -- would serve any useful purpose at this point, since evidence of the nature and extent of such subsidies is simply not now available. But it is important to raise some basic questions to be noted, even if not

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28/ The FCC has outstanding a general inquiry Docket No. 20003, into the subject of internal subsidies as part of an examination of the economic impact of new policies towards competitive entry in private-line and terminal equipment services. See Economic Implications Relating to Customer Interconnection, etc., 49 FCC 2d 1238 (1974); First Report in Docket No. 20003, FCC 76-879 adopted September 23, 1976.

29/ See New York Public Service Commission Opinion 75-17 and 75-28, discussed in FCC Common Carrier Bureau, Preliminary Report on the Economic Effects of Competition in the Private Line and Terminal Equipment Markets (mimeo, 1975); First Report in Docket 20003, FCC 76-879, pars. 194-212.

explored, at this conference. First, because of the manner in which this "subsidy" scheme has been administered, the government, i.e., the FCC, has virtually no information as to the degree of the subsidy, its cost, its effects, the efficiency with which it distributes benefits, etc. Lacking useful data about how the present scheme operates, policy makers have been deprived of adequate information needed for exploring alternatives. What, for example, would be the effect on rural areas of moving towards cost-of-service, nonuniform telephone rates -- as rate policy and rate practice is tending to do in some areas? Second, there is need to raise yet more basic questions: Is it wise communications policy to give to AT&T the social decision of whom to subsidize and in what manner? What are the consequences, regulatory and other, of vesting such discretion in the private firm? What standards, if any, guide the exercise of their discretion? Can the firm be expected to apply social criteria that do not fit with AT&T's interests?

Brief mention should be made of the relevance of current Commission policies which are interrelated with the subsidy question and which arguably may have a bearing on rural telephone service. The first involves the Commission's interconnect policies concerning customer provided equipment. See, e.g., Caterfone, 13 FCC 2d 420 (1968), reconsideration denied, 14 FCC 2d 571 (1969); Interstate and Foreign Message Toll Telephone Service, 56 FCC 2d 593 (1975), 56 FCC 2d 736 (1976). It is argued that these policies may have severe economic impact upon the small rural telephone company because needed resources from terminal equipment (e.g., PBX's,

telephone key systems) will be lost to equipment suppliers. Such claims were made in a 1975 decision by Mebane Home Telephone Company, a small REA-financed company in North Carolina. The Commission rejected the claim as wholly speculative. See Mebane Home Telephone Co., 53 FCC 2d 473 (1973). The issue is an important one, now under general investigation by the Commission. Revenues from PBX and key system can represent a substantial part of a rural system's local service revenues (e.g., almost a quarter in Mebane's case); on the other hand, the local phone company would appear to have great advantages in any competition (e.g., stability; service). See First Report in Docket No. 20003, supra, pars. 250-54.

There have been similar claims of threatened adverse impact as a result of the FCC's decisions permitting competitive entry in terrestrial and satellite private-line services markets. See Specialized Common Carrier Services, 29 FCC 2d 870 (1971), aff'd sub nom Washington Utilities & Trans. Comm'n v. FCC, 513 F.2d 1142 (9th Cir. 1975), cert. denied, 423 U.S. 836 (1975); Second Report on Domestic Communications Satellite Facilities (Domsat Decision), 35 FCC 2d 844 (1972), aff'd sub nom, The Network Project v. FCC, 511 F.2d 786 (D.C. Cir. 1975). Here again a serious question is raised as to the extent such new carriers can divert present private line business from the established telephone companies; the issue is being explored by the Commission. See First Report in Docket No. 20003, supra, at pars. 265-314.

Quite apart from direct competitive impact claimed to be threatened by this new competition, AT&T argues that to meet the new competition on heavily used routes, it has been forced to abandon its long-standing policy of nationwide average pricing for private line service which have, it claims, promoted universal service.

In the context of this conference, Bell raises a pertinent issue. To the question, who wins or who loses as a consequence of the FCC's new policies, Bell argues:

> "In the main, it is the big town businessman who wins, the small town businessman who loses. For the former, the cost of communications is less than it was, for the latter more. Particularly burdened are the proprietors of weekly newspapers and small dailies, enterprises whose lifeblood is communications."30/

The Commission replies that the nation wins -- that the public benefits from the lower cost, more efficient service and innovative developments made possible by competition, and that if there are to be subsidies to, for example, small dailies or weekly newspapers, they should be direct subsidies by the Government, not by Bell as a kind of private government.

This basic telecommunications issue has now been brought to the Congress on the initiative of AT&T which seeks legislation reversing past FCC decisions permitting new competitive entry into private line

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30/ Speech by John de Butts, Chairman of the Board, AT&T, before the Indianapolis Economic Club, March 22, 1976, p. 6. See also Wall Street Journal, September 8, 1976, p. 6 ("FCC Moves to Curb AT&T's Bell System May Hurt Small Phone Concerns the Most"), giving some examples of increased costs (separations) to small telephone companies because of new Bell policies stemming from the competitive threat. Illustrative of tariff readjustments that can be expected in the future is the Hi-Lo tariff. See AT&T, 58 FCC 2d 362 (1976). The Commission rejected the Hi-Lo tariff, but made clear that it does not oppose realignment of rates in accordance with cost of service.

telephone services and into the supply of terminal equipment. Initial hearings are being held as this is written, and in the next Congress the matter will be thoroughly aired. Here it is only necessary to point out that the issue must also be considered in the context of new developments that might have substantial benefits for the small town businessman -- and potentially the promise of domestic satellite, discussed next,

VI. Domestic Satellites

Though it would no doubt be inaccurate to claim that the authorization of domestic satellites reflected a conscious policy decision to promote balanced national growth in general, or rural development in particular, this authorization should be listed as one which clearly does in fact promote the interests of balanced national development, including rural development, insofar as it makes broadband technology more or less equally available to all parts of the country. Unlike terrestial microwave, or cable, satellite transmission is distance insensitive, a feature which makes it particularly important for rural areas. It costs no more to transmit voice, data or image from New York to Panguitch, Utah, than from New York to Pittsburgh.[31/]

The economic limitation on the use of satellites is thus not the location of sender-receiver but rather effective utilization -- whether sufficient traffic is generated to cover the satellite and earth station

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31/ Domestic satellite operation is claimed to be cost efficient over terrestrial at distances of 750 or more miles; future operations may cut this figure to 150 miles.

costs. This is indirectly a question of rural vs. urban use: with lesser population densities in rural areas, efficient utilization is, ceteris paribus, more difficult to achieve. However, this is not an invariable obstacle. For example, an industrial plant located in a rural area would presumably use just as much data-carrying capacity as one located in an urban area. While a single plant may not have enough capacity to support an earth station, terrestrial links -- microwave, cable -- may make it possible for several plants to share capacity almost as cheaply in rural areas as in urban.[32/]

As a result of innovation in satellites and earth station technology, economic utilization can be enhanced in such a way that the cost disparity between rural and urban use may disappear. The system currently proposed by the Comsat-IBM-Aetna consortium (Satellite Business Systems), for example, holds out the promise of a switched digital system providing voice, data and image service through small (16-23 feet in diameter) and relatively inexpensive (about a half million dollars) earth stations capable of being located directly on the user's premises (though, as with the conventional earth stations, location would depend on traffic loads generated at the premises). Such a system could significantly enhance the opportunity for broadband commercial services in rural areas.

32/ In this connection, see the Commission's July 1976 decision adopting an unrestricted shared use/resale policy in Docket No. 20097. In the Matter of Regulatory Policies Conerning Resale and Shared Use of Common Carriers, FCC 76-641. The carriers have sought reconsideration, and the matter is now pending before the Commission.

As of the present time, the proposed system awaits FCC action on an application by SBS -- which has been vigorously contested by other competing telecommunications carriers (AT&T, Western Union, RCA, among others). Some of the opposition relates to details of the SBS application (adequacy of cost data, etc.) but much of it is, at bottom, directed at IBM's participation in the domestic satellite business. IBM's participation does raise substantial policy issues, beyond the scope of this conference. But whatever the outcome of this particular proposal, it seems probable that innovation, unless blocked by regulatory barriers (fed in part by anticompetitive reactions from existing carriers who will suffer economic injury as a consequence of new service offerings), will help to eliminate urban-rural differences in communications service. From this it seems to follow that any policy designed to further balance national growth and development should aim at minimizing regulatory barriers to new service offerings. Insofar as new service has been fostered by competitive forces, competitive entry should continue to be promoted (in line with the 1972 Comsat decision).

Quite aside from encouraging technological and service innovation in satellite technology, a regulatory policy designed to promote satellite use in rural areas needs also to address the problem of promoting more efficient utilization of facilities through sharing. From the standpoint of regulatory policy, the most important consideration is to examine policies/attitudes which may unreasonably constrain shared use. The one

particularly notable case in point is the sharing of earth stations currently being planned for the public broadcast system. The 160-odd station network that is currently planned could be of large importance to rural communications users other than public broadcast stations, since the capacity of these earth stations far exceeds the demands of public broadcasting. For its part, public broadcasting would eagerly welcome any opportunity to share earth station capacity with the satellite carrier (the current arrangement is with Western Union) as an offset against carrier transmission costs. The carrier could then lease the earth station capacity to other users.

While no official policy has been made on this proposal (none has been brought before the FCC), such an arrangement would undoubtedly cause considerable concern. In spite of the obvious efficiency involved in promoting fuller utilization of communications facilities, such an arrangement still raises a serious question about public broadcasting's involvement in the commercial venture.[33/] The problem is compounded by the fact that other carriers competing with Western Union are certain to raise objections insofar as this arrangement may permit Western Union to take advantage of government supported earth station facilities to undercut competitors who must recoup both satellite and earth station investment costs.

33/ One might draw distinctions between shared use and resale (as the Commission recently did in its Resale and Shared Use Decision, Docket 20097) but the line of distinction is fine, if not wholly invisible.

While both of these problems are valid concerns, neither is a dispositive objection to the proposed arrangement. As to the first, the problem seems more theoretical than practical since, as proposed, public broadcasting is not really involved in on-going commercial ventures. So far as the second problem is concerned, this ought to be subject to regulatory correction by controlling the lease rates (or "offset costs") between Western Union and public broadcasting (this would presumably call for a policy of full cost allocation to pertinent units of capacity).

VII. Conclusions

This paper has raced over the landscape of communications policy in an effort to identify major problem areas that may interpose obstacles to the development of rural communications services. On the strength of this survey and evaluation of pertinent regulatory policies, definitive findings or precise recommendations would be presumptuous. However, a few generalizations can be made with some degree of confidence.

It is apparent that the central regulatory obstacle to expanded television broadcast services inheres in the present allocations scheme. Efforts to expand over-the-air television through measures such as additional VHF assignments in selected markets and strengthened VHF service may make marginal improvements in urban service, but they are unlikely to yield significant benefits for rural America.

Cable television, once the great hope for expansion of television services, cannot be counted on to yield major service benefits for rural areas without a major change in regulatory policies. While it cannot be said that present regulatory policies have directly halted the development of cable in rural areas, the policies would appear to have indirectly inhibited such development by constraining the growth of cable as a nationwide medium of communications.

The promotion of cable and translator systems, combining the best features of broadcasting and cable in an integrated service for rural areas, holds some promise for improved service. And here one should not place too much emphasis on purely regulatory policies, which, in my judgment, are not a major constraint on such development.

In the longer term, the future of direct satellite broadcasting is still too unsettled to venture predictions. Clearly the advent of such a service, should it prove economically feasible, will conflict with traditional policies of localism which promises to raise again the prospect of internecine conflict between broadcasters and new venturers promoting such service. If past is prologue, an early resolution of this impending conflict is not probable.

Probably more promising in the near term is the use of satellites for distribution of television and other services to local cable systems and broadcast stations (or, perhaps MDS facilities) for local distribution. However, so long as present local distribution facilities must be relied on, the obstacles mentioned above will still be confronted.

For point-to-point communications, the advent of new telecommunications services, of the kind proposed for example by the SBS satellite system, appear to be contingent on the outcome of current debates over the role of specialized common carriers. If legislation proposed by AT&T were approved, it could significantly retard innovation, particular in the area of flexible, direct satellite service to business and other institutional users in rural as well as urban areas. Even granted AT&T's present claims that this new competition could cause a major realignment of present rate structure -- to the possible detriment of some residential telephone users -- it is questionable whether that consideration should stand in the way of significant new services such as those offered by more widespread utilization of satellites.

In the final summation, as one scans the array of different regulatory policies, the most notable shortcoming from the standpoint of the development of rural communications is the absence of any concentrated policy perspective on the communication needs of rural America. The FCC, beset with innumerable competing demands for its attention, has dealt with problems of rural communications episodically and somewhat indifferently. This is understandable given the political environment in which it operates and which generally gives but passing notice to distinctive rural needs. In broadcasting, in cable, in telecommunications, the concern of the Congress and the Executive, as well as that of the industries and the interested public, has invariably been directed to urban needs and interests. To discern any sustained interest in rural communications among these sectors of policy influence, one must look long and hard.

For this basic deficiency there are no miracle cures. One small step in the direction of elevated public/political consciousness of the needs of rural America might be for the Commission to develop a special unit in its Office of Plans and Policy (OPP) devoted to these needs and their policy implications. However, given the relatively impoverished resources now at the disposal of OPP, one is inclined to look elsewhere for a major initiative. Similar considerations must cause skepticism about the possibility of a major initiative by OTP - though it would be a logical institution to assume such a function. On the broad policy level the need for Congressional direction seems inescapable. The initiative for such direction might well begin with the Office of Technology Assessment as well as with the respective Senate and House subcommittees on communications. It is the hope of this conference that it will provide a modest beginning for a more sustained enterprise looking toward such an initiative on a continuing basis.